NOMENCLATURAL AND TAXONOMIC NOTES ON MEXICAN COMPOSITAE

ROGERS MCVAUGH

The following notes have accumulated during the preparation of a treatment of the family Compositae for a proposed *Flora Novo-Galiciana.* Included are one new combination, discussions of points of nomenclature, mention of notable range-extensions, and comments on taxonomic decisions, all of which are somewhat out of place in a formal floristic treatment. The area covered by the proposed flora includes the Mexican States of Jalisco, Colima, and Aguascalientes, and some adjoining territory; for a fuller description of it see Brittonia 13: 145-147. 1961, Contr. Univ. Mich. Herb. 9: 1-7. 1966, or Contr. Univ. Mich. Herb. 9: 207-357. 1972. Another paper preliminary to the *Flora Novo-Galiciana,* including descriptions of a number of taxa of Compositae new to science, appeared in Contr. Univ. Mich. Herb. 9: 359-484. 1972. For general support of the field-work and other activities on which this paper is based, I am grateful to the National Science Foundation (Grant no. GB-5218X).

In the course of revision of the various groups of Compositae for the Flora, I have seen most of the relevant types (or in some instances isotypes). When I have seen and studied a specimen, this is indicated in the text below in the conventional way [!]. To the many persons and institutions that have permitted and assisted my studies of the valuable collections in their charge, my sincere thanks.

Many of the remarks on nomenclature refer to the names published by Kunth in the fourth volume of *Nova Genera et Species Plantarum* (1818), or those published by DeCandolle in the fifth and sixth volumes of his *Prodromus* (1836, 1838). To the authorities at Paris, where I have studied most of the types of Humboldt & Bonpland, and at Geneva, where similarly I have seen and studied the types of DeCandolle, I am most grateful.

It is necessary to comment on the dates of publication of the fourth volume of the *Nova Genera et Species*, which dealt wholly with the Compositae. Folio and quarto editions of this were published simultaneously (as they were for the other 6 volumes of the set). Volume 4 appeared in 1820, in 5 installments, on 17 Apr, 22 Mai, 31 Jul, 18 Sep and 26 Dec, respectively. Apparently the quarto edition was not available to the public before these dates, nor was the folio edition generally distributed. The printing of the folio text was completed, however, in September 1818, and at least 4 copies were distributed and became more or less accessible to the botanical public by 1 December 1818. The authors presented a copy to the Institut in Paris on 26 October 1818. Under the code of nomenclature now in force, this constitutes effective publication as of that date, of all the new names proposed in the volume. The fact that the authors considered the work unpublished until it was generally distributed in 1820, is irrelevant. In citations of names published in the *Nova Genera et Species*, botanical custom has been to cite the page-numbers of the quarto edition, as this has been more generally available. Some authors have cited the pages of both quarto and folio editions, on the assumption that the two were published simultaneously. Names of Compositae, however, are correctly cited as from the folio edition only, because publication of the quarto pages was delayed for a year and a half to two years. For summary of the dates of publication of both editions and the circumstances surrounding the distribution of volume 4, see Stafleu, F., *Taxonomic Literature* (Regnum Veg. **52:** 225-226. 1967). Many of the circumstances were first made public by Henri Cassini, who was given a copy of the folio text by Kunth, and who criticized it in his own published articles before the dates of general distribution in 1820. Cassini's remarks, originally published in the *Journal de Physique, de Chimie, d'Histoire Naturalle et des Arts*, early in 1819, were reprinted in his *Opuscules Phytologiques*, vol. 1, pp. 324, 339, etc. 1826.

Ageratella microphylla (Sch. Bip.) A. Gray in S. Wats. Proc. Am. Acad. 22: 419. 1887.

Ageratum microphyllum Sch. Bip. in Seem. Bot. Voy. Herald 298. 1856.

Ageratella microphylla var. *seemannii* and var. *palmeri* A. Gray in S. Wats. Proc. Am. Acad. 22: 419. 1887.

Ageratella palmeri (A. Gray) Rob. Proc. Am. Acad. 41: 272. 1905.

The type of *A. microphylla* (from the "Sierra Madre", i.e. perhaps from Cerro del Pinal, Sinaloa, *Seemann* 2043!, at K) was taken from a plant with unusually broad leaves, as well shown in the illustration published by Hemsley (Biol. Centr. Am. Bot. 5: *pl. 42*. 1881). The specimen evidently represents a portion of a plant in which several long leafy branches arose from a larger stem. As is often the case in the Compositae, the leaves are opposite at the lower nodes of such branches, but sometimes alternate above. Similarly abnormally branched specimens, of otherwise typical "*palmeri*", have the same leaf-arrangement but with fewer opposite leaves (e.g. *Gaiser* 62, at MICH, from near Guadalajara). Nothing exactly like the type of *microphylla* has been found by any subsequent collector, and we can but surmise what it may represent, until it can be found again in the field.

Gray (1887) distinguished what he called two varieties on the basis of the broad, incised-dentate leaves and subspicate inflorescence of var. *seemannii* (i.e. typical *microphylla*), and the narrow, subentire leaves and looser inflorescence of var. *palmeri*. Robinson (Proc. Am. Acad. 41: 271-272. 1905), and Blake, in the *Trees and Shrubs of Mexico*, noted these features, and stated also that the leaves were alternate in *palmeri* but opposite in *microphylla*. Both these authors treated the two taxa as distinct species. Blake's key is based entirely on leaf-characters. In fact it seems that neither position nor shape of leaves is completely diagnostic. In the original specimens of var. *palmeri* (*Palmer* 537!, at GH, from near Guadalajara), and in most

flowering specimens, the narrow leaves of sterile axillary shoots are much in evidence, giving the impression of a narrow-leaved plant. There is much individual variation in this respect, but the main cauline leaves subtending axillary shoots are seldom very narrow, and often much toothed or lobed.

The differences between "spikelike" and "loose" inflorescences also appear to be related to individual differences in branching. When vigorous lateral leafy branches (e.g. those 10-30 cm long) produce a number of short-peduncled axillary clusters of flower-heads, the effect is of a spike; when (as in most specimens), the lateral branches are reduced in length, and in number of nodes, and bear few or no heads except small clusters at the tips, the effect is of a small loose panicle. Various intermediates can be demonstrated.

Archibaccharis hieraciifolia Heering, Jahrb. Hamburg. Wiss. Anst. 21, Beih. 3: 40. 1904.

Baccharis hieraciifolia Hemsl. Biol. Centr. Am. Bot. **2:** 129. 1881, not *B. hieracifolia* Lam., 1783.

Hemibaccharis hieraciodes Blake, Contr. U.S. Nat. Herb. **20:** 547. 1924.

Archibaccharis hieracioides (Blake) Blake, Jour. Washington Acad. Sci. **17:** 60. 1927.

Blake (1927) discussed the nomenclature of this species and that of *Archibaccharis hirtella*. Both were assigned names by Heering in 1904, but both were called "n.spec." in spite of the fact that both names were derived from previously published names. As Blake said, "it seems advisable to treat these two names of Heering as representing new combinations". Under the International Code of Botanical Nomenclature (Art. 72) a new combination derived from a previously published but illegitimate name (e.g. *Archibaccharis hieraciifolia* from *Baccharis hieraciifolia* Hemsl.) may be treated as a new name. It is therefore proper to use the name originally proposed by Heering, not *Archibaccharis hieracioides*, the substitute proposed by Blake.

Baccharis sulcata DC. in DC. Prodr. **5:** 419. 1836.
Baccharis potosina A. Gray, Proc. Am. Acad. **15:** 33. 1879.

Blake (in the *Trees and Shrubs of Mexico*, 1926) treated *Baccharis sulcata* as a synonym of *B. thesioides* H.B.K., but the type of *B. sulcata* (Villalpando, *Méndez*! in G-DC) certainly represents another species. The narrow leaves (up to 3-3.5 mm wide) vary from quite entire to toothed, with up to 4 or rarely 6 short teeth per cm of margin. In other respects, including the characters of heads and inflorescence, and the habit, the plants are typical of what has been called *B. potosina* (San Luis Potosí, *Parry & Palmer* 410! at GH, the type).

Bidens acrifolia Sherff, Bot. Gaz. **94:** 591. 1933.
Bidens polyglossa Sherff, Brittonia **16:** 61. 1964.

Southern Sinaloa (Concordia, *Dehesa* 1532!, K, the type), and western Jalisco (northwest of Cuautla, *McVaugh* 13633!, MICH, type of *B. polyglossa*).

The type of *Bidens acrifolia* is an immature and incomplete specimen, but in all observable details it agrees precisely with the abundant available material of *B. polyglossa*. The apparent differences mentioned by Sherff (Brittonia **16:** 62. 1964) are insignificant or (those pertaining to the leaf-pubescence and to the phyllaries) nonexistent.

Chaptalia runcinata H.B.K. Nov. Gen. & Sp. **4** [ed. fol.]: 5. *pl. 303*. 1818.

Sonora (*Pennell* 19647), western Durango (*Maysilles* 7452, 7809, 7848; *Cronquist* 9560), northern Nayarit (*Rose* 2022, at US). Costa Rica; Venezuela and Colombia (*Humboldt & Bonpland*!, at P, the type); Bolivia to southeastern Brazil and northern Argentina. Not previously reported from north of Costa Rica, but abundant on the summer-wet, high pine plains of western Durango (cited specimens from Sonora and Durango all at MICH). The seasonal forms with reduced or filiform marginal flowers, reported by Burkart for South American representatives of this species, have not been found in Mexico, but otherwise the

Mexican material agrees perfectly with that from further south.

Conyza viscosa Mill. Gard. Dict. ed. 8. *Conyza* no. 8. 1768.
Conyza lyrata H.B.K. Nov. Gen. & Sp. 4 [ed. fol.] : 55. 1818.

The type, from Veracruz (*Houstoun*!, BM), is a pale-pilose plant resembling what has been called *Conyza lyrata* var. *pilosa* Fernald, Proc. Am. Acad. **36**: 506. 1901 (Chiapas, *Seler* 1879!, GH, the type), whereas the type of *C. lyrata* H.B.K. (Guayaquil, *Humboldt & Bonpland*!, P) is much less hairy, with more conspicuous glands.

Erigeron longipes DC. in DC. Prodr. **5**: 285. 1836.
Erigeron scaposum DC. in DC. Prodr. **5**: 287. 1836.
Erigeron scaposum β latifolium DC. in DC. Prodr. **5**: 287. 1836.
Erigeron affine DC. in DC. Prodr. **5**: 289. 1836.

From Coahuila and perhaps Durango southward nearly throughout southern Mexico to Central America, variable in habit, originally described as subscapose. The leaves, especially in some parts of eastern Mexico, may be grouped toward the base of the stem, whereas in Nueva Galicia the leafy part of the stem is usually elongated and the leaves well spaced along it. I have not seen the type (*Karvinski*, s.n., at M), which is from some unknown locality in Mexico, but judging from fragments in DeCandolle's herbarium (G-DC!), it represents the same species as the other names cited above. Subscapose forms seem to be especially abundant in Oaxaca, and it may be that Karvinski's specimens came for that state. *Erigeron scaposum* and *E. longipes* were described by DeCandolle as perennials, whereas *E. affine*, the type of which was a plant with elongated leafy stems, was erroneously described as an annual. The type of *E. affine*, from near the City of Mexico (*Berlandier* 522!, G-DC), almost certainly represents a perennial species. The basal parts of the plant are much like those of *E. scaposum*, and in fact the two supposed species are essentially similar except that in *E. affine* the hairs are longer on both leaf-surfaces. The type of *E. sca-*

posum came from near Toluca (*Andrieux* 277!, G-DC), and that of *β latifolium* from near Mexico City (*Berlandier* 375!, G-DC).

Erigeron velutipes Hook. & Arn. Bot. Beech. Voy. 434. 1841.
Erigeron alamosanum Rose, Contr. U.S. Nat. Herb. **1**: 102. 1891.

Western Mexico, from southern Sonora (*Palmer* 348!, US, the type of *E. alamosanum*) to Chihuahua, Sinaloa, southern Zacatecas, Nayarit, Jalisco, and Michoacán. The type (*Sinclair s.n.*!, at K) was collected between San Blas and Tepic. Plants of *E. velutipes* have often been misidentified with *Erigeron tenellum* DC. in DC. Prodr. **5**: 288. 1836, the type of which came from Matamoros, Tamaulipas. (*Berlandier* 2129! in G-DC, lectotype). *E. tenellum*, like *E. velutipes*, is a slender branched annual, but the herbage is eglandular and the base of the plant is only moderately stiff-hairy. The name *E. alamosanum* was based on specimens a little larger than average for the species. Similarly vigorous plants are not infrequent along the Pacific Slope from Sonora to Nayarit.

Eupatorium albicaule Sch. Bip. ex Klatt, Leopoldina **20**: 89. 1884.
Eupatorium albicaule var. *laxius* Rob. Proc. Am. Acad. **35**: 330. 1900.
Eupatorium leucoderme Rob. Proc. Am. Acad. **41**: 274. 1905.
Eupatorium ymalense Rob. Contr. Gray Herb. II. **75**: 14. 1925.

Lowlands, sea-level to 300 m. in elevation, Sinaloa (Ymala, *Palmer* 1474!, GH, type of var. *laxius* and of *E. ymalense*), Nayarit, Jalisco, Colima, Michoacán (Chuta, *Langlassé* 183!, GH, type of *E. leucoderme*); Tabasco and Chiapas; Yucatán Peninsula; north to Veracruz (Papantla, *Liebmann* 88!, P, an isotype), San Luis Potosí, and Tamaulipas. This geographical range is like that of many other species of tropical Mexico; see the maps in *Arboles Tropicales de México*, by Pennington & Sarukhán (published by

the Instituto Nacional de Investigaciones Forestales, and the FAO, pp. vii, 413. México, 1968).

Plants growing in western Mexico were distinguished from the original *Eupatorium albicaule*, first as the var. *laxius* and later as an independent species, *E. ymalense*. The only significant difference between the two populations seems to lie in the shape of the phyllaries, which are acute or attenuate in the plant of the Pacific lowlands, and usually, but not always, blunt or subacute in the plant of eastern Mexico and the Yucatán Peninsula. Robinson reported the heads in *E. albicaule* as "about 7 or 8-flowered", but they are usually 10-13-flowered, as in the supposed *E. ymalense*.

Eupatorium collinum DC. in DC. Prodr. **5**: 164. 1836, var. **collinum.**

Eupatorium stillingiaefolium DC. in DC. Prodr. **5**: 160. 1836.

This variety appears to be restricted to eastern Mexico. The type (*Berlandier* 2162! in G-DC), from near Tantoyuca in the Atlantic lowlands of Veracruz, apparently does not differ significantly from the type of *E. stillingiaefolium* (*Berlandier* 2142! in G-DC), which was collected in Tamaulipas. In these plants, and in modern specimens from the same region, the phyllaries are narrow and attenuate or acute (the middle ones 1 mm wide), often nearly all equal, sparingly ciliate, evidently resinous-dotted and more or less densely short-pubescent, but scarcely if at all arachnoid-tomentose. In a second variety ranging widely through central and western Mexico into Central America, the plants are more pubescent and less conspicuously glandular, the phyllaries are more strongly graduated, and some or all of them obtuse and evidently closely fimbriate-ciliate. I can detect no great variation within the limits of this second population, except that rather densely pilose individuals seem to be more frequent in Chiapas and Central America than from Guerrero westward. The second variety is the following:

Eupatorium collinum DC., var. **mendezii** (DC) McVaugh, comb. nov.

Eupatorium mendezii DC. in DC. Prodr. **5**: 160. 1836.

Eupatorium neaeanum DC. in DC. Prodr. **5**: 160. 1836.

?*Eupatorium nigrescens* Hook. & Arn. Bot. Beech. Voy. 297. 1838.

Sonora to Jalisco, Guanajuato (León, *Mendez*!, in G-DC, the type), Morelos, Guerrero (Acapulco, *Née*!, in G-DC, type of *E. neaeanum*), Oaxaca, Chiapas and Central America.

DeCandolle grouped *E. neaeanum*, *E. mendezii* and *E. stillingiaefolium* with other species having the heads 25- 30-flowered, but *E. collinum* was described as having the heads 50-flowered, and accordingly was not closely associated with the others in the *Prodromus*. I suspect that some error was involved here, although Robinson (in the *Trees and Shrubs of Mexico*, p. 1448) states that the heads in *collinum* may have as many as 46 flowers. The number of flowers usually varies from 22 to 28; it is rarely as low as 18 or 20, and even more rarely 30 or more; I have seen only one specimen in which the heads were about 36-flowered, and none with a larger head.

Robinson separated *E. collinum* from *E. mendezii* and *E. neaeanum* partly on the basis of pubescence and leaf-shape. The latter seems quite useless as an indicator of specific lines in this group of species. Pubescence in the group is highly variable, as noted above, but the types of *E. mendezii* and *E. neaeanum* are not strongly pubescent in comparison with other specimens from central and western Mexico, and the differences between them and typical *collinum* are no more than might be expected of regional populations in one species.

Eupatorium hebebotryum (DC.) Hemsl. Biol. Centr. Am. Bot. **2**: 95. 1881.

Critonia hebebotrya DC. in DC. Prodr. **5**: 141. 1836.

Hebeclinium tepicanum Hook. & Arn. Bot. Beech. Voy. 434. 1841.

Eupatorium tepicanum (Hook. & Arn.) Hemsl. Biol. Centr. Am. Bot. 2: 101. 1881.

Nayarit (Tepic, *Sinclair*!, K, type of *H. tepicanum*), Jalisco, Michoacán, Morelos, Guerrero (*Haenke*!, in G-DC, the type probably from this state); Central America. The distinctions used to separate the two supposed species, namely that between sessile and pedicellate heads, and that in the color of the dried leaves, appear to be inconsequential.

Eupatorium ovaliflorum Hook. & Arn. Bot. Beech. Voy. 297. 1838.

Eupatorium bertholdii Sch. Bip. in Seem. Bot. Voy. Herald 299. 1856.

Southern Sonora, ? western Durango ("Sierra Madre", *Seemann* 2011! at K, isotype of *E. bertholdii*), Sinaloa, Nayarit (Tepic, *Beechey*!, at K, the type), Jalisco, Michoacán.

According to Robinson (in *Trees and Shrubs of Mexico*, p. 1433), *Eupatorium bertholdii* is distinguished from *E. ovaliflorum* by having the heads 10- to 13-flowered and the involucre 2-2.6 mm thick, as against heads 20- to 40-flowered and the involucre 4-5 mm thick. In the material at hand these differences seem not to hold; I have not seen any head with more than 22 flowers, and none as much as 4 mm thick. The flowers are usually about 17-20, and the involucre 2.5-3 mm thick.

Eupatorium polybotryum DC. Prodr. 5: 174. 1836.

Nothites ovatifolia DC. in DC. Prodr. 5: 187. 1836, not *Eupatorium ovatifolium* Hieron., 1908.

Ophryosporus ovatifolius (DC.) Hemsl. Biol. Centr. Am. Bot. 2: 79. 1881.

Eupatorium petraeum Rob. Proc. Am. Acad. 41: 275. 1905.

Ophryosporus petraeus (Rob.) Rob. Contr. Gray Herb. II. 75: 4. 1925.

Decachaeta ovatifolia (DC.) King & H. Rob. Brittonia 21: 282. 1969.

Southeastern Jalisco, western Michoacán, Edo. de México,

Guerrero (*Langlassé* 565!, GH, type of *E. petraeum*). A related species ranging from western Michoacán northwestward to Sinaloa and Chihuahua is *Eupatorium scabrellum* Rob. Proc. Am. Acad. 35: 339. 1900 [*E. microcephalum* A. Gray, Proc. Am. Acad. 21: 384. 1886, not of Regel; *Ophryosporus ovatifolius* sensu Rob. in Standl. Contr. U.S. Nat. Herb. 23: 1469. 1926, not *Nothites ovatifolia* DC.]. *E. scabrellum* and *E. polybotryum* are separable as follows:

1. Phyllaries 12-15, 2- 4-seriate, the outer gradually shorter, the innermost (2-5 in each head) longer and narrower than the others and completely or partially modified into pales, deciduous with the achenes or before; flowers (7-) 10-12 (-15). .... *E. polybotryum.*

1. Phyllaries 6-8 in 1-2 nearly equal series (in addition to 2-3 smaller outer bracts), the innermost neither prolonged and resembling pales, nor deciduous; flowers 4-9. ..... *E. scabrellum.*

The nomenclature of these species has become confused. In the *Trees and Shrubs of Mexico*, Robinson (1926, p. 1469) took up the name *Ophryosporus ovatifolius* but misapplied it to the species correctly known as *Eupatorium* [*Ophryosporus*] *scabrellum*, at the same time recognizing as independent species *O. scabrellus* (Rob.) Rob. and *O. petraeus* (Rob.) Rob. Robinson said of his *Ophrysporus ovatifolius*, "Typical material of this species, early collected by Haenke in Mexico but without indication of locality, has never been precisely matched except by specimens collected by Seemann, also without recorded locality". Presumably Robinson referred to two collections studied by him at the Gray Herbarium; the Seemann collection is the type of *Eupatorium microcephalum* A. Gray (= *E. scabrellum* Rob.). The Haenke specimen consists of a few heads and the tip of a branch of an inflorescence, annotated by Gray as "*Nothites ovatifolia* DC.!", and by Robinson as *Eupatorium polybotryum* DC. [i.e. *Ophryosporus ovatifolius*

of Robinson's treatment in 1926]. Unfortunately Robinson seems to have misinterpreted this fragment, which certainly represents *Eupatorium petraeum*, not *E. microcephalum*. The heads are only 7- 8-flowered, but the involucre is several-seriate, and the narrow paleaceous inner phyllaries are unmistakably those of "*E. petraeum*". The original Haenke specimens at G-DC, the types of *Eupatorium polybotryum* and *Nothites ovatifolia*, respectively, I have seen through the courtesy of Prof. J. Miège. These represent one and the same species, as Robinson long ago suggested, but that species is "*Eupatorium petraeum*", not *Ophryosporus ovatifolius* in the sense of Robinson. Both the Haenke collections represent a species with 12-15 graduated phyllaries of which the inner are deciduous at maturity; with 1-3 narrow pales on the receptacle; and the flowers 8-11 in each head.

King and H. Robinson (1969) first formally combined *Eupatorium polybotrium* [sic] and *Nothites ovatifolia*, under the name *Decachaeta ovatifolia*. The correct epithet for the combined taxa is therefore *ovatifolia* except in *Eupatorium* where the name is preoccupied.

Gnaphalium canescens DC. in DC. Prodr. **6**: 228. 1838.
Gnaphalium wrightii A. Gray, Proc. Am. Acad. **17**: 214. 1882.

There seems to be no significant difference between the plants of nothern Mexico and southwestern United States that have been called *G. wrightii* (western Texas, *Wright* 394!, the type), and the plants of central Mexico, from Durango and Aguascalientes to Jalisco, Guanajuato, Hidalgo and the Valley of Mexico, that have been called *G. canescens* (León, *Méndez*!, in G-DC, the type). The leaves in this species tend to be broadest near the middle or above. A very similar species is *Gnaphalium roseum* H.B.K. Nov. Gen. & Sp. 4 [ed. fol]: 63. 1818, in which the leaves tend to be oblong or broadest at base. The type (from Guanajuato, *Humboldt & Bonpland*!, P), is a coarse woolly plant with immature heads.

Gnaphalium inornatum DC. in DC. Prodr. **6**: 225. 1838.

This species was based upon four collections made by Berlandier, viz. no. 1195 ("ad montem de Las Cruces"), no. 740 (from the Valley of Mexico), no. 309 (between Tampico and Real del Monte) and no. 1146 (from Guchilaque, between Mexico and Cuernavaca). DeCandolle described it as a woolly plant with narrow erect shortly decurrent leaves, pale reddish ("refescentibus") phyllaries, about 10 hermaphrodite flowers and 30-40 pistillate flowers.

Judging from the specimens in the Prodromus herbarium (cf, also IDC microfiche 1066), and from duplicates (at P) of all the cited numbers, it seems that three different species are represented by the syntypes of *G. inornatum*. The description in the protologue does not exactly fit any of the species. Nos. 1146 and 1195 apparently represent the same species, in which the number of flowers in a head is 100 or more and the perfect flowers are 7-11 or more. DeCandolle's report of 10 perfect flowers presumably was based on one of these specimens, and one of them may appropriately be designated as lectotype. No. 740 may be eliminated from consideration as the heads are about 50-flowered, and the perfect flowers are 4 in number. DeCandolle's specimen is so immature that it seems unlikely that he dissected a head (cf. Field Mus. neg. 28713). The remaining syntype, no. 309, seems to represent a third species, also one in which the heads are about 50-flowered and the perfect flowers about 5.

Berlandier 1146 is designated as lectotype since in the Prodromus herbarium it appears to be a somewhat better specimen (than no. 1195); since from the position of specimens in the herbarium it seems to have been the one on which DeCandolle's report of 10 perfect flowers was based; and since from Berlandier's notes it appears this collection was more widely distributed than his no. 1195.

Gnaphalium sphacilatum H.B.K. Nov. Gen. & Sp. 4[ed. fol.]: 67. 1818.

Gnaphalium pedunculosum I. M. Johnst. Contr. Gray Herb. II. **68**: 99. 1923.

Durango (*Palmer* 411! in GH, the type of *G. pedunculosum*), northern Jalisco, San Luis Potosí, D.F., Edo. de México (Teotihuacán, *Hahn;* beween the City of Mexico and Huehuetoca, *Humboldt & Bonpland*!, the type, at P). Similar, narrow-leaved plants with uniformly gray thin tomentum occur in various other areas both in North and South America, and have been called by various other names, either treated as distinct species or as varieties of *Gnaphalium purpureum*. The type of *G. sphacilatum* is an immature but otherwise typical plant with the characteristic bracts, pappus, glabrous acute phyllaries, and linear thinly silky leaves.

Gnaphalium stramineum H.B.K. Nov. Gen. & Sp. 4[ed. fol]: 66. 1818.

Gnaphalium chilense Spreng. Syst. Veg. 3: 480. 1826.

Gnaphalium sprengelii Hook. & Arn. Bot. Beech. Voy. 150. 1833.

Gnaphalium berlandieri DC. in DC. Prodr. 6: 223. 1838.

Material from central and eastern Mexico can usually be distinguished from California specimens of *Gnaphalium "chilense"* because of the somewhat narrower leaves and the tendency for the uppermost leaves to become bracteiform. The types of *G. stramineum* (between Morán and Omitlán, *Humboldt & Bonpland*!, at P), and *G. berlandieri* (D.F., *Berlandier* 471!, in G-DC) are representatives of the Mexican population. The Humboldt & Bonpland specimens were apparently badly wilted before drying, and perhaps taken originally from slender or starved plants, but the heads have the characters of this species (flowers 175 or more, hermaphrodite flowers 15-16, phyllaries obtuse, the inner ones about 23). An isotype at Paris (*Bonpland* 4108) seems clearly to represent the same taxon. The characteristic yellow color of the phyllaries can no longer be seen in the original material of *G. stramineum*.

Gnaphalium viscosum H.B.K. Nov. Gen. & Sp. 4[ed. fol.]: 64. 1818.

Gnaphalium hirtum H.B.K. Nov. Gen. & Sp. 4[ed. fol.]: 64. 1818.

?Gnaphalium gracile H.B.K. Nov. Gen. & Sp. 4[ed. fol.]: 65. 1818.

Gnaphalium tenue H.B.K. Nov. Gen & Sp. 4[ed. fol.]: 65. 1818.

Gnaphalium leptophyllum DC. in DC. Prodr. 6: 226. 1838.

A plant primarily of the Central Plateau of Mexico, widely distributed from western Texas to northeastern Sonara, south at moderate elevations except in the extreme deserts to Oaxaca and Central America. Cronquist (in Vasc. Pl. Pacific N.W. 5: 204. 1955; and Man. Vasc. Pl. N.E. U.S. & Can. 737. 1963) has applied the name *Gnaphalium viscosum* very broadly, so as to include the plant of temperate North America that has been better known as *G. decurrens* Ives, or *G. macounii* Greene. This seems to be unrealistic; *G. viscosum* has a characteristic Texano-Mexican range distinct from that of *G. macounii* and, compared with other currently accepted species of *Gnaphalium*, it is morphologically very distinct. It differs from *G. macounii* vegetatively in its far more numerous and narrower leaves. The inner phyllaries in *G. macounii* are usually about 21, the flowers fewer (125-150 in a head) but often larger than those of *G. viscosum*. At least until the complex of glandular, decurrent-leaved fragrant species of *Gnaphalium* can be revised as a whole, *G. viscosum* may well be circumscribed narrowly. Nothing exactly referable to *G. macounii* has been found in Nueva Galicia, but numerous collections from the Sierra Madre Oriental suggest that *G. macounii* ranges well south into eastern Mexico. In Chihuahua *G. viscosum* may be confused with *G. leucocephalum* A. Gray, in which the phyllaries are pearly white, relatively dull and opaque and symmetrically graduated in length.

This is the only Mexican species having the herbage strongly glandular-pubescent throughout, the leaves very numerous (100 or more in well developed plants) and linear or narrowly sagittate, the flowers 200 or more in a head, the mature receptacle 3-4 mm wide, and the plants strictly annual, not forming a basal rosette. The types of *G. viscosum, G. hirtum, G. tenue* and *G. leptophyllum* seem

without question to represent the same taxon. The type of *G. gracile* (Guanajuato, *Humboldt & Bonpland*! at P) is apparently from a weak, depauperate plant with relatively few leaves and numerous heads.

Heterotheca inuloides Cass., var. **rosei** Wagenknecht, Rhodora **62**: 69. 1960.

Heterotheca leptoglossa DC. in DC. Prodr. **5**: 317. 1836.

In Wagenknecht's revision, *Heterotheca leptoglossa* is maintained as a distinct species, distinguished from *H. inuoides* by "its annual habit, narrow leaves, smaller capitular [sic], and linear phyllaries". The type of *H. leptoglossa* (León, *Méndez*!, in G-DC and cf. Intern. Doc. Center microfiche, Prodromus herbarium, no. 857), is the upper part of what appears to be a vigorous plant of *H. inuloides*, with leaves normal for that species. As many plants of *H. inuloides* flower the first year, the differences between annual and perennial habit in this group are of questionable significance. In the type of *H. leptoglossa* neither phyllaries nor ligules are atypical of *H. inuloides*. The ligules are not linear as described by DeCandolle but oblanceolate, 2.5 mm wide by 10-11 mm long. The heads are of about average size for *H. inuloides*, and the phyllaries are not unusually narrow.

Montanoa ["Montagnaea"] **karvinskii** DC. in DC. Prodr. **5**: 565. 1836.

Montanoa olivae Sch. Bip. ex. K. Koch, Wochenschr. Gaertn. **7**: 406. 1864.

Montanoa gracilis Sch. Bip. ex K. Koch, Wochenschr. Gaertn. **7**: 407. 1864.

Montanoa subtruncata A. Gray, Proc. Am. Acad. 22: 424. 1887.

?*Montanoa affinis* Blake, Contr. U.S. Nat. Herb. **22**: 612. 1924.

A common and widely distributed plant, from Sinaloa to Jalisco, Guerrero and Oaxaca, easily recognized by the wingless petioles, the glabrous lobes and throat of the disk-flowers, and the pilose anthers. It was long known

as *M. subtruncata,* until Blake (Contr. U.S. Nat. Herb. **26:** 246. 1930) confirmed the identity of that plant with *M. olivae* and *M. gracilis.* After examination of the type of *M. karvinskii* (without locality, *Karvinski s.n.* in G-DC), I can confirm Blake's tentative suggestion that this is a still older name applying to the same species. Apparently the plant called *M. affinis* is merely a nearly glabrous form of the same species.

Oxypappus scaber Benth. Bot. Voy. Sulph. 118. 1845.
Chrysopsis scabra Hook & Arn. Bot. Beech. Voy. 434. 1841. not *C. scabra* Ell., ?1823.
Pectis seemannii Sch. Bip. in Seem. Bot. Voy. Herald 309. 1856.
Oxypappus seemannii (Sch. Bip.) Blake, Contr. U.S. Nat. Herb. **26:** 261. 1930.

The name *Oxypappus scaber* was a new combination based on the illegitimate name *Chrysopsis scabra* Hook. & Arn. According to the International Code of Botanical Nomenclature (Art. 72) such a combination is not to be rejected, but is to be treated as a new name. See also above under *Archibaccharis hieraciifolia.*

Tragoceros americanus (Mill.) Blake, Contr. U.S. Nat. Herb. **26:** 240. 1930.
Calendula americana Mill. Gard. Dict. ed. 8. *Calendula* no. 10. 1768.
Tragoceras schiedeanum Less. Linnaea **9:** 269. 1834.

The original material of *Calendula americana* was sent to Miller from Veracruz by William Houstoun, between 1729 and 1733. Blake (1930) reported, after examination of the type, that it represented what had been called *Tragoceros microglossus* DC. (DC. Prodr. **5:** 533. 1836), a rather local species of Jalisco and Guanajuato. According to Torres, however (Brittonia **15:** 290-302. 1963), the only species of *Tragoceros* known from the Atlantic lowlands of Mexico is the one called *T. schiedeanus.* The most easterly localities known for *T. microglossus* (*T. "americanus"*)

are more than 500 km from Veracruz, in quite a different

vegetational zone. It seemed highly unlikely that a distinctive inland species like *T. microglossus* should have been found near Veracruz about the year 1730, but never have been recollected there. In April, 1970, therefore, I reexamined the type of *Calendula americana* (*Houstoun*, at BM). It is true, as Blake remarked, that the heads are sessile or practically so, as in *T. microglossus*, but the ligules of the ray-flowers are the narrow, tapering and conspicuously bifid ones of *T. schiedeanus*, not the obtuse or barely emarginate ones of *T. microglossus*. As such bifid rays occur in this genus only in *T. schiedeanus* and the related *T. zinnioides* (which has larger heads), there can be little doubt that the Houstoun specimen represents what has been called *T. schiedeanus*. It is therefore unfortunately necessary to use the name *T. americanus* for this species, and relegate the well-known *T. schiedeanus* to synonymy.

The original spelling of the generic name was *Tragoceros*, and according to the International Code of Botanical Nomenclature this spelling must be kept, although various authors have changed it to *Tragoceras* in an attempt to conform to the spelling of the classical Greek word for horn, from which the *-ceros* part of the name was derived. The Code recommends (Rec. 75A) that names ending in *-ceras* be treated as neuter in the future, but this does not affect names already published, and in no way authorizes anyone to alter the original spelling of any such name. There is ample biological precedent for names ending in *-ceros* (not *-ceras*), as pointed out by Bentham a century ago (Gen. Pl. 2, pt. 1: 356. 1873). Such names as *Antho-ceros* and *Rhinoceros* have been consistently treated as masculine since the time of Linnaeus. *Tragaceros* has been used in its original form by some authors (e.g. Hemsley and Asa Gray), who have treated it as masculine. Others (notably Lessing, DeCandolle and most recently Torres) who have used the *-ceras* spelling have treated the name as neuter. There would seem to be no justification for this latter course under the Code, and the neuter forms of

specific epithets published under *Tragoceras* are to be treated as orthograhic errors.

Trigonospermum adenostemmoides Less. Syn. Gen. Comp. 214. 1832.

Since the appearance of the note on this species by McVaugh and Laskowski (Contr. Univ. Mich. Herb. **9**: 498-500. 1972) I have seen the type of the name, through the courtesy of the Director of the Institut für Systematische Botanik und Pflanzengeographie of the Martin Luther University, Halle (HAL). The specimen bears Schiede's original label: "Composita. Herba annua caule ultraorgyali. Jun. 29", and an annotation in the hand of Lessing: "Trigonospermum n[.] g[.] adenostemoides n[.] sp [.]" The ample fruiting and flowering specimen clearly represents the taxon treated as *T. adenostemmoides* in our paper cited above.

Vernonia triflosculosa H.B.K. Nov. Gen. & Sp. **4**[ed. fol.]: 31. 1818.

Vernonia barbinervis Sch. Bip. in Seem. Bot. Voy. Herald 297. 1856.

Vernonia (?) *palmeri* Rose, Contr. U.S. Nat. Herb. **1**: 101. 1891.

Vernonia chacalana Blake, Contr. Gray Herb. II. **52**: 19. 1917.

Southern Sonora (*Palmer* 387!, at US, type of *V.(?) palmeri*), Sinaloa, Durango (Chacala, *Goldman* 333!, at GH, type of *V. chacalana*), Nayarit, Jalisco, Colima, Guerrero (Acahuizotla, *Humboldt & Bonpland*!, the type); Central America. The type of *V. barbinervis* (*Seemann* 1998!, at P), came from the "Sierra Madre", i.e. probably from Durango, Sinaloa, or northern Nayarit.

According to both Gleason and Blake, *Vernonia palmeri* is a distinct species ranging from Sonora to Tepic, characterized by the (usually) relatively abundant pubescence of the lower leaf-surface. *Vernonia barbinervis*, known only from the type-region, has the foliage almost glabrous except that the leaves are densely tomentose along the

midvein beneath. In typical *Vernonia trifloscu1osa,* supposed to range from Colima to Costa Rica, the leaves are said to be glabrous to "thinly tomentulose" beneath. Both glabrous- and pubescent-leaved plants occur in Nueva Galicia, but I do not find any other features correlated with differences in pubescence, and I believe only one species can be recognized.

Viguiera puruana Paray, Bol. Soc. Bot. Méx. 22: 4. 1958. *Viguiera blakei* McVaugh, Contr. Univ. Mich. Herb. 9: 454. 1972.

My attention was called to the similarity between *Viguiera puruana* and *V. blakei* by a specimen collected in Michoacán (6 km south of Tuxpan on the road to Zitácuaro, *Rzedowski* 25153, MICH) and correctly identified as *V. puruana.* Since then, through the kindness of Dr. Ramón Riba y Nava Esparza, I have seen the type of *V. puruana* (Michoacán, San José de Purúa, *Paray* 1780, MEXU). There can be no doubt it represents the taxon more recently described under the name of *V. blakei.*

Xanthocephalum sericocarpum A. Gray, Proc. Am. Acad. 15: 31. 1879.

Two very similar species have long been confused under this name. One is a perennial of arid grasslands and their borders, ranging from Querétaro and San Luis Potosí to northern Jalisco and the plains near the City of Durango. The other is an annual, chiefly of pine forests, from western Chihuahua to Aguascalientes and northern Jalisco. The ranges of the two overlap, as far as known, only in Aguascalientes and Jalisco:

1. Phllaries 16-18 (-25); disk-flowers commonly about 80-85; plants perennial, from a woody taproot. . . . . *X. sericocarpum.*

1. Phyllaries 35-50; disk-flowers 100-200; plants annual. . . . . *X. conoideum.*

The type of *X. sericocarpum* (San Luis Potosí, *Parry & Palmer* 369!, GH) evidently represents the perennial species. The heads are small, the phyllaries 20-25, broad

and relatively firm (not lanceolate or narrowly rhombic with broad hyaline margins as in *X. conoideum*). A collection by Schaffner, mounted on the type-sheet by Gray, apparently represents the same species.

The annual species is *X. conoideum* Hemsl. Biol. Centr. Am. Bot. 2: 110. 1881. The type (*Coulter* 299!, at K) was collected somewhere in central Mexico, "between Real del Monte and Zacatecas".

Zinnia bicolor (DC.) Hemsl. Biol. Centr. Am. Bot. 2: 153. 1881.

Mendezia bicolor DC. in DC. Prodr. 5: 533. 1836.

Zinnia tenella Rob. Proc. Am. Acad. 63: 39. 1907.

Western Chihuahua, Durango (Tejamen, *Palmer* 500!, at GH, type of *Z. tenella*), southern Zacatecas, northern and eastern Jalisco, Guanajuato (León, *Méndez*! in G-DC, the type), San Luis Potosí.

The ligules of the ray-flowers are white or yellow (the two colorforms sometimes mixed in the same population), or yellow with a red spot at base. A plant with yellow ligules red-spotted at base formed the basis for *Z. tenella*. According to Torres *Z. tenella* differs from *Z. bicolor* also in having "lanceolate to elliptic" rather than "linear to lance-oblong" leaves, and "obovate to cuneate" rather than "linear-elliptic" ray-achenes. In Nueva Galicia the differences in leaf-shape, in achene-shape, and in ray-color, appear to represent individual variations, and it seems futile to try to distinguish more than a single species in the group.

Zinnia violacea Cav. Ic. 1: 57. *pl. 81*. Dec 1791.

Zinnia elegans Jacq. Ic. Pl. Rar. 3: 15. *pl. 589*. 1793; Coll. Bot. 5: 152. 1797.

Essentially all authors have taken up the name *Zinnia elegans* in preference to *Z. violacea*. The place of publication of *Z. elegans* was correctly cited by a few contemporary authors, as by Willdenow (Sp. Pl. 3, pt. 3: 2140. 1803) and by Sims (in Bot. Mag. *pl. 527*. 1801). In DeCandolle's revision of the Compositae, however, through a typo-

graphical error the reference was given as "Jacq. Coll. **3.** p. 152" (DC. Prodr. **5:** 536. 1836). This error has been perpetuated by subsequent authors who have merely copied from DeCandolle without looking up the original reference. Thus in Hemsley's treatment of *Zinnia* in the *Biologia Centrali-Americana,* and in the *Index Kewensis,* the citation is of volume 3 of the *Collectanea,* not volume 5. As volume 3 was published late in 1791 (cf. Stafleu, F., *Taxonomic Literature,* p. 232. 1967) it may well have enjoyed priority over the first volume of Cavanilles' *Icones,* which appeared in December of the same year. The fifth volume of the *Collectanea,* however, did not appear in print until 1797. It seems clear that the name *Zinnia violacea* Cav. has priority of more than a year over *Z. elegans* Jacq., which was published first in 1793 and again in 1797.

UNIVERSITY HERBARIUM
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN 48104

THE COMBINATION *PELTANDRA VIRGINICA* (L.) SCHOTT & ENDLICHER: The indigenous eastern North American genus *Peltandra* was described by Rafinesque (J. Phys. Chim. Hist. Nat. Arts **89:** 103, 1819) when he based it on a simultaneously described new species, *P. undulata* Raf. in a somewhat confusing manner, Rafinesque states that *"Calladium sagittaefolium"* (= *Arum sagittaefolium* L., a member of the genus *Xanthosoma* according to Fernald, Rhodora **50:** 59, 1948) and *"C. virginicum"* (presumably = *Arum virginicum* L.) are related to *Peltandra,* but he apparently did not intend their inclusion in the genus. Rafinesque (New Flora and Botany of North America **1:** 87, 1836) later conceded that *P. undulata* was probably identical to *Arum virginicum.* However, he re-